LITERATURE FOR NEW ENGLAND BOTANISTS

RUSSELL, EMILY W. B. 1983. Indian-set fires in the forests of the northeastern United States. Ecology **64**(1): 78–88.

Emily Russell presents the most thorough analysis to date of historical literature relating to Indian-set fires in the northeast. Her conclusion is that Indians did set fires locally, usually near their dwellings, but there is no evidence to support statements that Indians regularly burned forests over wide areas.

WHITNEY, GORDON G. & ROBERT E. MOELLER. 1982. An analysis of the vegetation of Mt. Cardigan, New Hampshire: a rocky, subalpine New England summit. Bull. Torrey Bot. Club **109**(2): 177–188

The authors present a quantitative analysis, using reciprocal ordination methods, of the vegetation at the summit of Mt. Cardigan. They recognize 2 environmental gradients—exposure and available soil moisture—as most important; and 3 major community types: dwarf evergreen shrub, deciduous shrub, and sub-alpine spruce-fir. They plot the population response patterns for 12 major species on the plot ordination.

Despite historical evidence of fires, they question whether the summit of Cardigan (and similar peaks) was ever completely forested at the very top, and feel that these wind-swept areas have served as refugia for arctic-alpine species.

PAILLET, FREDERICK L. 1982. The ecological significance of American chestnut (*Castanea dentata* (Marsh.)Borkh.) in the Holocene forests of Connecticut. Bull. Torrey Bot. Club **109**(4):457–473.

A marked increase in chestnut pollen makes this an excellent indicator for the boundary between the C_2 and C_3 climate zones (C_3 = 2000 years ago to present) inferred from New England pollen profile studies. An understanding of the modern ecology of chestnut, especially its reproductive strategy, is necessary in order to interpret correctly this pollen increase in relation to environmental conditions. The author presents working theories as a basis for future research.

BROWN, JAMES H. JR., CESAR A. CASTANEDA, & ROBINSON J. HINDLE. 1982. Floristic relationships and dynamics of hemlock

(Tsuga canadensis) communities in Rhode Island. Bull. Torrey Bot. Club **109**(3):385–391.

Hemlock stands probably represent some of the oldest and least disturbed forest communities in the state. In the absence of major disturbance, change occurs very slowly, and hemlock reinforces its dominant position in the stands.

SICCAMA, THOMAS G., MARGARET BLISS, & H. W. VOGELMAN. 1982. Decline of Red Spruce in the Green Mountains of Vermont. Bull. Torrey Bot. Club **109**(2):162–168.

The authors note the distinct decline of red spruce over a 15-year period, and present data to document this. The cause of the decline may be due to air pollution and resultant acid rain and heavy metal accumulation. Insects and fungal diseases also play a role.

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BOOKS RECEIVED

MOHLENBROCK, ROBERT H. 1982. The illustrated flora of Illinois. Flowering plants: basswoods to spurges. 234 pp. Carbondale, Illinois, Southern Illinois University Press. (price $22.95)

This is the 10th volume in a continuing series. Forty-two genera and 103 species are described, and keys are provided. Additional notes include synonymy, ecology, variations, range. Dot maps show Illinois distribution. A detailed line drawing by Mark William Mohlenbrock is provided for each species. These volumes are useful, far beyond the borders of Illinois.

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